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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,401	02/11/2005	Jozef Arnold Frans Baeten	PSS-6112	4671

57449 7590 10/01/2007
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EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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10/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,401

Applicant(s)

BAETEN, JOZEF

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 5, 10 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 20 is objected to because of the following informalities: Claim 20 refers to a “second” flexible means and depends from claim 18 which depends from claim 11. There is no disclosure of a first flexible means, therefore the examiner recommends deletion of “second” from claim 20 for clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no mention of the use of an electromagnet included in the structure of the loudspeaker.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1, 4, 11 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuze et al. U.S. Patent No. 6,836,551.

Regarding claim 1, Kuze discloses an electrodynamic loudspeaker (1000) comprising: a chassis (12A), a movable body flexibly connected to the chassis and having a three-dimensional diaphragm (8) with a base part and a top part that is wider than the base part, and an electromagnetic actuator (1, 2, 3, 9, 9A) for moving the body with respect to the chassis along a translation axis which actuator includes: a stationary actuator part (1,2,3) secured to the chassis, and a translatable actuator part (9, 9A) that extends inside a space enveloped by the contours of the diaphragm and is translatable along the translation axis with respect to the stationary actuator part and is connected to the movable body in the region of the base part of the diaphragm, the stationary and translatable actuator parts magnetically co-operating with each other across an air gap (4), wherein the movable body includes, in the proximity of the base part of the diaphragm, a bridging element (24) that is secured to the movable part of the actuator and extends radially (7A) with respect to the translation axis, the diaphragm and the bridging element being interconnected at least at a radial distance (6B) to the translatable part of the actuator (See Fig. 2 and col. 8, line 32-58).

Regarding claim 4, Kuze further discloses the stationary actuator includes a magnetic structure (1, 2, 3) and the translatable actuator (9) part includes a magnetic coil (9A), the magnetic coil extending into the air gap (4) (See Fig. 2 and col. 8, line 32-58).

Regarding claim 11, Kuze discloses a loudspeaker (1000) comprising: a chassis (12A), an actuator (1, 2, 3, 9, 9A) that is configured to move along a translation axis relative to the chassis, a bridging element (24) that is coupled to the actuator and extends radially (7A) from the

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translation axis, a diaphragm (8) that includes: a top part that is coupled to the chassis, and a base part that is coupled to the bridging element at a radial distance from the actuator to provide a diameter of the base part that is significantly larger than a diameter of the actuator See Fig. 2 and col. 8, line 32-58).

Regarding claim 19, Kuze further discloses a flexible member (10) that couples the bridging element to the chassis and is configured to support the bridging element and actuator relative to the chassis (See Fig. 2).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 3, 6, 9, 15, 17 and 18 are rejected as being unpatentable over Kuze in view Borwick ("Loudspeaker and Headphone Handbook", third edition 2001) and further in view of Devantier et al. U.S. Patent No. 6,327,372.

Regarding claims 2, 3, 6 and 9, Kuze teaches of an electrodynamic loudspeaker as claimed. Kuze does not expressly disclose the bridging element (cover 24 or dust cap) is functioning as a cooling element having an anodized surface during operation and is thermally conductive. However, Borwick discloses that the bridging element (dustcap) can be designed to function as a cooling element (dustcap pumps air past the voice coil). Borwick also discloses that the bridging element (~ may be made of metal - aluminum - connected directly to the movable part of the actuator (coil former and voice coil) (pg. 501, Dust Cap). Therefore, It would have been obvious to one of ordinary skill in the art at that time, to include the teachings of Borwick

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in Kuze's invention to prevent the destruction of the voice coil and to improve its performance by removing the heat that it generates. Furthermore, it is well known that metal surfaces can be anodized to protect the metal from humidity or moisture as is discussed in Devantier et al. (column 1, lines 63-65). It thus, would have been obvious to add Devantier's teaching to the loudspeaker of Kuze and Borwick, so as to increase the durability of the bridging element (dustcap).

Regarding claims 15, 17 and 18, Kuze teaches of an electrodynamic loudspeaker as claimed. Kuze does not expressly disclose the bridging element (cover 24 or dust cap) is configured to conduct heat from the actuator having an anodized surface during operation and is thermally conductive. However, Borwick discloses that the bridging element (dustcap) can be designed to function as a cooling element (dustcap pumps air past the voice coil). Borwick also discloses that the bridging element (~ may be made of metal - aluminum - connected directly to the movable part of the actuator (coil former and voice coil) (pg. 501, Dust Cap) and is disc-shaped. Therefore, It would have been obvious to one of ordinary skill in the art at that time, to include the teachings of Borwick in Kuze's invention to prevent the destruction of the voice coil and to improve its performance by removing the heat that it generates. Furthermore, it is well known that metal surfaces can be anodized to protect the metal from humidity or moisture as is discussed in Devantier et al. (column 1, lines 63-65). It thus, would have been obvious to add Devantier's teaching to the loudspeaker of Kuze and Borwick, so as to increase the durability of the bridging element (dustcap).

Claims 7, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuze as applied to claims 1 and 11 above, and further in view of Scanlan U.S. Patent No. 5,625,701.

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Regarding claim 7, Kuze discloses a first flexible connecting means proximate to the top part of the diaphragm (attachment of diaphragm to chassis 12B) and a second flexible connecting means (10) proximate to the base part of the diaphragm for movably supporting the translatable body with respect to the chassis, and wherein: the second flexible connecting means is fixed to the chassis and the bridging element (See Fig. 2). Kuze does not expressly disclose the first flexible connecting means is fixed to the chassis and the diaphragm. Kuze does teach a flexible diaphragm connected to the chassis at the top of the diaphragm. The use of flexible surrounds is well known in the art and Scanlan teaches a flexible member (13) that couples the top part of the diaphragm (12) to the chassis (30) (See Scanlan Fig. 10) to allow free movement of the diaphragm. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the flexible edge as taught by Scanlan in the diaphragm of Kuze to ensure free movement of the diaphragm for improved sound generation.

Regarding claims 8 and 12, Kuze discloses a loudspeaker as claimed. Kuze does not expressly disclose a housing that encloses the chassis and diaphragm. However, the placement of loudspeakers in housings is well known in the art and Scanlan teaches a housing that encloses the chassis and diaphragm (See col. 3, lines 36-45). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to mount the loudspeaker of Kuze in a housing for use in any number of stand alone applications.

Claim 20 is rejected as being unpatentable over the combination of Kuze in view Borwick in view of Devantier as in claim 11 above and further in view of Scanlan.

Regarding claim 20, the combination of Kuze in view Borwick in view of Devantier does not expressly disclose a second flexible member that couples the top part of the diaphragm to the

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chassis. Kuze does teach a flexible diaphragm connected to the chassis at the top of the diaphragm. The use of flexible surrounds is well known in the art and Scanlan teaches a second flexible member (13) that couples the top part of the diaphragm (12) to the chassis (30) (See Scanlan Fig. 10) to allow free movement of the diaphragm. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the flexible edge as taught by Scanlan in the diaphragm of Kuze to ensure free movement of the diaphragm for improved sound generation.

Allowable Subject Matter

Claims 5, 10 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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P.O. Box 1450
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Or faxed to:

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to:

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BRIAN ENSEY
PRIMARY EXAMINER
9/21/07